



## CORRECTED SUBSTITUTE SPECIFICATION

**Eccentric Pump and Method for Operation of said Pump****BACKGROUND**

The invention relates to a pump with a housing, having an inlet and an outlet, a fixed cylinder central to a mid-axis of the pump, a displacer, planetating eccentrically within the cylinder, a crank drive for the displacer, a circumferential sickle-shaped pumping chamber between the cylinder and displacer and a helical sealing element in the pumping chamber. Moreover, the present invention relates to a method for operating such a pump.

- 5 A pump having the characteristics mentioned is known from US 5,174,737. It has the function of a compressor and is preferably intended for compressing the gas of a refrigerant circuit.

It is the task of the present invention to design a pump of the aforementioned kind such that it may be employed as a dry running vacuum pump.

Over the past years, the customers have required from the manufacturers of vacuum pumps, dry running vacuum pumps at an increasing rate. These are to be understood as pumps, the pumping chambers of which are free of lubricant. In the instance of pumps of this kind there no longer exists the risk of hydrocarbons diffusing into the chambers to be evacuated by the pumps and thereby impairing the

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